

Ziqi Zhou

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 [jia1018.github.io](https://github.com/jia1018)  [Google Scholar](https://scholar.google.com/citations?user=Jia1018)  github.com/Jia1018



RESEARCH INTERESTS

I work on *visual representation learning* for video, and on how models should represent the physical structure of the world so that it stays controllable. My current focus is *camera motion*: how a camera trajectory should be parameterised so that it aligns with geometry and with natural language at the same time, what camera-related structure large-scale pretrained video models have already learned, and whether a single camera representation can transfer across understanding, prediction and generation rather than being relearned for each task. My earlier research spans *data-driven inverse problems* in geometry processing, audio-driven talking face generation, and *unified multimodal models* for understanding and generation.

EDUCATION

- **School of Informatics, University of Edinburgh** Sep 2025 - Jun 2029 (Expected)
PhD in the Machine Learning Systems CDT Advisors: [Laura Sevilla-Lara](#), [Oisin Mac Aodha](#) Edinburgh, United Kingdom
- **Institute of Automation, Chinese Academy of Sciences** Sep 2022 - Jun 2025
Master in Computer Applied Technology GPA: 3.89/4.00 Advisor: [Dong-Ming Yan](#) Beijing, China
- **University of Chinese Academy of Sciences** Sep 2018 - Jun 2022
Bachelor in Computer Science and Technology GPA: 3.80/4.00 Advisor: [Shiguang Shan](#) Beijing, China

PUBLICATIONS

C=CONFERENCE, J=JOURNAL, P=PREPRINT

- [P.1] **Ziqi Zhou**, Yujian Yuan, and Laura Sevilla-Lara. **Unveiling the Value of Motion for Cinematic Camera Trajectories**. Under review at *Conference on Neural Information Processing Systems (NeurIPS 2026)*.
- [C.3] **Ziqi Zhou**, Weize Quan, Mining Tan, Zhihan Chen, Dandan Zheng, Jingdong Chen, Jun Zhou, Weiming Dong, and Dong-Ming Yan. **COMPASS: Grounding Composition-Intent Guidance in Unified Multimodal Models**. In *European Conference on Computer Vision (ECCV 2026)*.
- [C.2] **Ziqi Zhou**, Weize Quan, Zhaojin Lu, and Dong-Ming Yan. **Diffused Poses and Distilled Expressions for Controllable Audio-driven Talking Face Generation**. In *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP 2025)*.
- [C.1] **Ziqi Zhou**, Weize Quan, Hailin Shi, Wei Li, Lili Wang, and Dong-Ming Yan. **GoHD: Gaze-oriented and Highly Disentangled Portrait Animation with Rhythmic Poses and Realistic Expressions**. In *AAAI Conference on Artificial Intelligence (AAAI 2025)*.
- [J.1] **Ziqi Zhou**, Mengke Yuan, Mingyang Zhao, Jianwei Guo, and Dong-Ming Yan. **ResGEM: Multi-scale Graph Embedding Network for Residual Mesh Denoising**. In *IEEE Transactions on Visualization and Computer Graphics (TVCG 2024)*. DOI: 10.1109/TVCG.2024.3378309.

EXPERIENCE

- **Ant Group**  May 2025 - Mar 2026
Academic Cooperative Researcher Beijing, China
 - Conduct research on multimodal large language models unifying vision understanding and generation tasks.
 - **Composition perception and dataset construction**. Led the creation of COMP-11, a large-scale aesthetic dataset with 1.2M+ VQA samples. Designed a Composition-specific Mixture-of-Experts and a learnable expert token to inject fine-grained composition understanding into unified LMMs.
 - **Reference-guided generation via structural bottlenecking**. Designed custom architectural constraints within a self-supervised framework, effectively formulating controllable layout generation as a structurally guided generation problem.
- **JD Group**  Mar 2024 - Jan 2025
Intern Algorithm Researcher Beijing, China
 - Participated in the design and implementation of solutions related to multimodal representation extraction for creative ranking.
 - **Creative representation extraction based on self-supervised learning**. Proposed a cross-template contrastive learning strategy within the same product ID, and participated in dataset construction and experimental analysis for this method.
 - **Exploration of creative representations based on large vision-language models**. Researched image understanding capabilities across various large vision-language models and designed appropriate text prompts to guide the model in generating precise creative captions beneficial for the creative ranking task.

PROJECTS

- Machine Learning Systems Project: Text-driven Cinematic Camera Trajectory Generation** Dec 2025 - May 2026
Tools: Pytorch, Claude Code 
 - Engineered a motion-centric representation model for camera trajectories, decoupling absolute poses into discrete direction and speed components to structurally bridge physical geometry and semantic controls.
 - Curated a comprehensive real-movie dataset consisting of 28K clips, enriching the corpus with screenplay-style loglines and macro movie attributes to enable cinematic motion exploration.
- Digital Human Project with NIO Inc: Audio-driven Talking Face Generation** Feb 2023 - Apr 2024
Tools: Pytorch 
 - Designed an audio-driven speaker generation system that features natural head poses and facial expressions, with lip motions highly synchronized with the input audio.
 - Integrated gaze-orientation into the framework, obtaining more natural and vivid results.
- Bachelor’s Thesis and Further Exploration: GCN-based Mesh Denoising** Nov 2021 - Nov 2022
Tools: Pytorch, Pytorch Geometric, Easy3D, C++ 
 - Formulated 3D mesh denoising as a data-driven inverse problem, designing a multi-scale neural architecture that leverages dual-domain graphs to model geometric and topological priors.
 - Developed an iterative algorithmic pipeline (cascaded and parallel) for robust structural recovery, improving the network’s ability to resolve ill-posed geometric degradations.
 - Received the Best Bachelor’s Thesis award and accepted by TVCG 2024.

SKILLS

- Programming Languages:** Python, C/C++
- Specialized Area:** Computer Graphics, Multimodal Generation, Computer Vision
- English:** IELTS 7 (L: 7.5, R: 7.5, S: 6, W: 7)

HONORS AND AWARDS

- Best Bachelor’s Thesis** 2022
University of Chinese Academy Sciences
- First-Class Academic Scholarship** 2019, 2020, 2021
University of Chinese Academy Sciences
- Gold Medal of international Genetically Engineered Machine (iGEM) Competition** 2019
iGEM Foundation

LEADERSHIP EXPERIENCE

- President of the Undergraduate Psychology Association** 2019 - 2020
University of the Chinese Academy of Sciences
 - Ran campus-wide mental health initiatives with the university’s counselling centre, including the Psychological Knowledge Competition and a Mindfulness Stress Reduction Camp.
- Leader of the Sports and Health Center in the Student Union** 2019 - 2020
University of the Chinese Academy of Sciences
 - Organised campus sports and wellness programmes, and led the “Good Morning, UCAS” online initiative during the COVID-19 pandemic, which reached nearly 1,000 participants.